



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,749	08/04/2003	Ken Yamamoto	6349-000036	5353

27572 7590 06/29/2006

HARNESS, DICKEY & PIERCE, P.L.C.
P.O. BOX 828
BLOOMFIELD HILLS, MI 48303

EXAMINER

JOYCE, WILLIAM C

ART UNIT	PAPER NUMBER
----------	--------------

3682

DATE MAILED: 06/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/633,749	YAMAMOTO, KEN	
	Examiner	Art Unit	
	William C. Joyce	3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 4-8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This is the First Office Action in response to the Election filed on April 13, 2006.

Election/Restrictions

1. Applicant's election with traverse of Group I, Figures 1-4 in the reply filed on April 13, 2006 is acknowledged. The traversal is on the ground(s) that the Examiner has failed to show that a serious burden exists in examining all the species. This is not found persuasive because each species clearly defines diverging subject matter that is a separate subject for inventive effort. For example, the first species of Figures 1-4 clearly defines a sealing member (21) for sealing between the caulked portion (6) and the shoulder portion (14b), but the second and third species of Figures 5-10 fails to provide a sealing structure. Accordingly, the sealing structure of the elected species is considered a separate subject of inventive effort as compared to the non-elected species.

The requirement is still deemed proper and is therefore made FINAL.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The information disclosure statement filed August 4, 2003 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document;

each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 3, line 5, the limitation "an internal thread" is unclear and should be changed to --said internal thread--.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1 -3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouchi (WO 02/28668) in view of Maynard (US Patent 5,233,741).

Ouchi discloses a bearing apparatus for a vehicle driving wheel comprising: a double row rolling bearing (6); a wheel hub (4) integrally formed with a wheel mounting

flange at one end and having a cylindrical stepped portion of smaller diameter axially extending from the other end of the wheel hub; an inner ring (5) fitted on the stepped portion of the smaller diameter of the wheel hub, said inner ring being secured on the wheel hub through a caulked portion (30) formed by plastically deforming the end of the stepped portion radially outwardly; an outer joint member (14) having a shoulder adapted to be abutted to the end surface of the caulked portion and a stem portion axially extending from the shoulder, the outer joint member being inserted in the wheel hub via a serration (13) fitted portion to attain a detachable engagement with the wheel hub; the outer joint member being pressed into the wheel hub to form a pre-loading means (page 25, last paragraph) so as to prevent any play between the mating components, a fastening means (24) for combining the wheel hub and the outer joint member.

Ouchi discloses the joint member being pressed into the hub member, but does not specifically disclose how the assembly is disassembled. If the device must be disassembled, a mechanic would recognize the joint member must be pressed out of the hub due to the interference fit between the components. For example, the prior art to Maynard teaches a tool used to press a joint member out of a hub assembly. It would have been obvious to one of ordinary skill in the art at the time the invention was made to disassemble the hub assembly of Ouchi using tool, as disclosed by Maynard, motivation being to facilitate in the disassembly of the device for maintenance.

With respect to claim 2, Ouchi discloses the serrated portion can be formed with a helix angle (page 25). Alternately, a parallel spline is considered to have a helix angle of 0 degrees.

With respect to claim 3, method limitations found in an apparatus claim are given limited patentable weight. For example, the method of "screwing a securing bolt into an internal thread formed in said shaft of the outer joint member through the central aperture of the plate" has been given little patentable weight.

Maynard shows the joint member having a male threaded portion (23) for engaging a nut member (24), wherein a washer is disposed between the nut and the joint member. It is understood the nut is screwed onto the male threaded portion and is capable of pulling the joint member into the hub, wherein the washer is considered a plate having a circular aperture corresponding the male threaded portion. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the male threaded portion of the joint with a female threaded portion, since each of the threaded fastening means are considered to be known mechanical equivalent fastening means.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ouchi (WO 02/28668) and Maynard (US Patent 5,233,741) as applied to claim 1 above, and further in view of Rutter et al. (US Patent 6,682,221).

Ouchi does not disclose an elastic ring and a pulsar ring, but the prior art to Rutter et al. teaches an elastic ring (23) and a pulsar (8). It would have been obvious to

one of ordinary skill in the art at the time the invention was made to modify the prior art to Ouchi with an elastic ring and pulsar ring, as taught by Rutter et al., motivation being to provide the hub assembly with a sealing means for preventing the hub from contaminates and a sensing means for determining a speed of the hub assembly.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Eason ('061) teaches the thrust plate (44) having a circular opening (46) corresponding to an internally threaded portion (58) for installing a rotary member (66) on a shaft (56).

Note the hub assembly of Sahashi et al. ('520), Kayama et al. ('706), and Tajima et al. ('639).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Joyce whose telephone number is (571) 272-7107. The examiner can normally be reached on Monday - Thursday 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


William C. Joyce